UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/892,617	06/28/2001	Yoko Fujiwara	011350-278	4898

7590 02/14/2005

Platon N. Mandros
BURNS, DOANE, SWECKER & MATHIS, L.L.P.
P.O. Box 1404
Alexandria, VA 22313-1404

EXAMINER	
MARIAM, DANIEL G	
ART UNIT	**PAPER NUMBER**
2621	

DATE MAILED: 02/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/892,617	FUJIWARA, YOKO	
	Examiner	Art Unit	
	DANIEL G MARIAM	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 September 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Amendment

1. In response to the Office Action mailed on July 1, 2004 applicant has submitted an amendment filed on September 15, 2004 amending claims 1-2, 4, 9-15, and 17; adding new claims 19-23; and arguing to traverse the rejection of pending claims 1-18.

Response to Arguments

2. Applicant's arguments filed July 1, 2004 with regard to the prior art rejections of claims 1-18 have been fully considered but they are not deemed to be persuasive for at least the following reasons.

3. On page 11 of the remarks, applicant alleges that the reference to Nishiwaki does not teach the judgment unit recited in claim 1. The Examiner disagrees. Although Nishiwaki does not use the specific language, i.e. judging unit, as recited in claim 1, given the broadest reasonable interpretation, Nishiwaki instead uses thresholding/deciding, etc, i.e., judging unit, whether to represent the character image by the character code or as a rejected character image (See for example, col. 6, lines 53-65; col. 15, line 66-67; and Figs. 2 & 6).

A similar argument is presented for all of the remaining claims 2-18, and thus the response presented above is not repeated herein, but is incorporated by reference.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-7, 9-15, 17, and 19-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Nishiwaki (6,738,519).

Before advancing the detailed claim rejections, it will be helpful to briefly describe the Character recognition apparatus of Nishiwaki. Nishiwaki achieves a remarkable improvement in a recognition performance for a character string including character contiguity or character agglomeration. This is because, there is conducted the recognition making use of the n-fold-character recognizing part as a feature of his invention for the unmatched portion upon word verification, to thereby achieve a correct recognition even when the unmatched portion includes contiguous characters, so that ambiguousness can be fully solved (See col. 5, line 60 – col. 6, line 2).

With regard to claim 1, Nishiwaki discloses an image processing device comprising: a character recognition unit that recognizes character codes from character images in image data, i.e., character string images, a conversion unit, i.e., character recognizer, for converting character images to character codes data according to character codes (See for example, col. 11, line 43-64; and Figs. 7-10); and a judgment, i.e., thresholding, deciding, examining, or evaluating, unit that obtains a degree of character continuity, i.e., contiguity, certainty level, or reliability, which is a degree of continuity between a character image and neighboring character images thereof, for any character image for which a character code has been recognized by said character recognition unit, and that makes a judgment on whether, based on the degree of character continuity, said character image should be represented by character code data *or* should be represented by image data, i.e., rejected character image data (For example, Nishiwaki examines certainty levels for each of the recognition result (character codes). If the certainty level is larger

than a predetermined value, Nishiwaki outputs or adopts the character codes. Otherwise, the results are rejected) (See for example, col. 9, line 23 – col. 10, line 52; col. 14, line 13 – col. 15, line 35; col. 15, line 66 – col. 16, line 43; col. 17, line 9 – col. 18, line 25; and Figs. 7-10).

With regard to claim 2, an image processing device as claimed in claim 1, wherein said judgment unit obtains said degree of character continuity based on at least *one of* a distance between said character image for which a character code has been recognized and neighboring character images thereof; a difference in font size between said character image for which a character code has been recognized and neighboring character images thereof; a difference in font type between said character image for which a character code has been recognized and neighboring character images thereof; a length of a character string in which said character image for which a character code has been recognized exists; and a difference in color between said character image for which a character code has been recognized and neighboring character images thereof (See for example, col. 16, lines 6-10).

With regard to claim 3, an image processing device as claimed in claim 1, wherein said judgment unit makes a judgment to convert said character image into character code data when said degree of character continuity is larger than a first prescribed value (See for example, col. 9, line 45 through col. 10, line 31; and col. 14, lines 38-59).

With regard to claim 4, an image processing device as claimed in claim 1, wherein said character recognition unit detects a degree of character recognition certainty, which is a degree of certainty in recognizing a character code from a character image; and said judgment unit

makes the judgment further based on said degree of character recognition certainty (See for example, col. 9, line 33 – col. 10, line 52).

With regard to claim 5, an image processing device as claimed in claim 4, wherein said judgment unit makes a judgment that said character image should be converted to character code data when said degree of character continuity is larger than a first prescribed value and said degree of character recognition certainty is larger than a second prescribed value (which reads on col. 9, line 33 – col. 10, line 52, for example).

With regard to claim 6, an image processing device as claimed in claim 5, further comprising: a character image data generating unit that cuts out character images from said image data to generate character image data, wherein said judgment unit makes a judgment that said character image data generating unit should generate said character image data for any character image whose degree of character continuity is larger than a third prescribed value, which is smaller than said first prescribed value, among character images judged not to be converted into character code data (See for example, col. 8, line 55 –col. 9, line 15).

With regard to claim 7, an image processing device as claimed in claim 5, wherein said judgment unit makes a judgment that any character image whose degree of character continuity is smaller than a third prescribed value, which is smaller than said first prescribed value, should be left intact in said image data, among character images judged not to be converted into character code data (See for example, col. 10, lines 32-52).

With regard to claim 8, an image processing device as claimed in claim 1, further comprising: a file generating unit that generates an electronic file containing character code data converted by said conversion unit (See for example, item 101, in Fig. 1).

With regard to claim 9, claim 1 encompasses the limitation of this claim, and is rejected the same as claim 1. Thus, argument analogous to that presented above for claim 1 is equally applicable to claim 9. Nishiwaki further discloses a program product on a computer readable medium for image processing, said program product causing a computer to execute the function recited in this claim (See for example, Fig. 1).

Claims 10, 11, 12, 13, 14, and 15 are rejected the same as claims 2, 3, 4, 5, 6, and 7 respectively. Thus, arguments similar to those presented above for claims 2, 3, 4, 5, 6, and 7 are respectively applicable to claims 10, 11, 12, 13, 14, and 15.

Claim 17 is rejected the same as claim 1. Thus argument analogous to that presented above for claim 1 is equally applicable to claim 17. Claim 17 distinguishes from claim 1 only in that it recites the limitation a scanning device for scanning documents to obtain image data, and Nishiwaki (col. 11, lines 55-64) further teaches this feature.

With regard to claim 19, an image processing device as claimed in claim 1, wherein the image data representing said character image is any one of input image data and character image data, i.e., rejected character image (See for example, Fig. 2).

Claims 20 and 21 are rejected the same as claim 19. Thus, argument similar to that presented above for claim 19 is applicable to claims 20 and 21.

With regard to claims 22-23, claim 1 encompasses the limitation of these claims except claims 22-23 are directed to method claims. Thus, argument similar to that presented above for claim 1 is applicable to these claims.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claim 22 is rejected under 35 U.S.C. 102(b) as being anticipated by Takaoka, et al (5,881,168).

With regard 22, an image processing method comprising the steps of: 1) generating character code data of a character image from original image data (See for example, col. 34, lines 32-39); 2) generating character image data of the character image from the original image data (col. 34, lines 34-35), and 3) employing at least one of the original image data, the character image data, and the character code data to represent the character image (See for example, col. 34, lines 40-47).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 8, 16, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishiwaki (6,738,519) in view of Shirasaki, et al (6,341,176).

With regard to claim 8, Nishiwaki discloses all of the claimed subject matter as already discussed above in paragraph 4, and is entirely incorporated herein by reference. While Nishiwaki stores the character codes that are generated by the character recognizer in an image storing part (item 101, in Fig, 1), Nishiwaki does not explicitly call for a file-generating unit that generates an electronic file containing character code data. However, Shirasaki, et al (See for example, items A3-A9, in Fig. 2; and B3-B10, in Fig. 13) teaches this feature.

Nishiwaki and Shirasaki, et al are combinable because they are from the same field of endeavor, i.e., character recognition (See for example, Fig. 1). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Shirasaki, et al with Nishiwaki. The motivation for doing so is to create a file of a specified format, such as "bunsyo.txt" from the results of the character recognition (or character codes). Therefore, it would have been obvious to combine Shirasaki, et al. with Nishiwaki to obtain the invention as specified in claim 8.

Claim 16 is rejected the same as claim 8. Thus, argument analogous to that presented above for claim 8 is equally applicable to claim 16.

With regard to claim 18, an image processing system as claimed in claim 17, wherein said image processing device further comprises a file generating unit that generates an electronic file containing character code data converted by said conversion unit (See for example, items A3-A9, in Fig. 2; and B3-B10, in Fig. 13 of Shirasaki, et al); and said image processing system

further comprises a printer that prints images based on said electronic file (See for example, col. 15, lines 54-55 of Shirasaki, et al).

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

1. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patent Number: 5815704.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL G MARIAM whose telephone number is 703-305-4010. The examiner can normally be reached on M-F (7:00-4:30) FIRST FRIDAY OFF.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, BHAVESH MEHTA can be reached on 703-308-5246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DANIEL MIRIAM
PRIMARY EXAMINER

February 10, 2005